

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-10 (cancelled).

11. (Currently Amended) A sensor element, having a layer configuration, for detecting a concentration of a gas component in an exhaust gas of an internal combustion engine, comprising:

- a measuring device configured to detect a physical property of the gas; and
- a heating device including a heater, which is electrically connected to a first heater supply lead and a second heater supply lead;

- wherein the first heater supply lead at least largely covers a full surface of the sensor element in at least one of a supply region and a region of the heater, and is arranged in a plane of stratification between the second heater supply lead and the measuring device and the first heater supply lead is at an at least largely constant electrical potential.

12. (Previously Presented) The sensor element as recited in claim 11, further comprising:

- an insulation layer, the first heater supply lead being insulated from the second heater supply lead by the first insulation layer;

- wherein the heater has a contact point via which the heater is electrically connected to one of the first heater supply lead or the second heater supply lead, the first insulation layer having a recess in a region of the contact point.

13. (Previously Presented) The sensor element as recited in claim 11, further comprising:

- a carrier foil, at least one of the heater and the second heater supply lead being electrically insulated from the carrier foil by a second insulation layer;

- wherein at least one of the heater and the first heater supply lead is electrically insulated from the measuring device by a third insulation layer.

14. (Previously Presented) The sensor element as recited in claim 11, wherein the heater, the first heater supply lead, the second heater supply lead, and insulation layers are applied onto a carrier foil using screen printing.

15. (Previously Presented) The sensor element as recited in claim 11, further comprising:

an insulation foil, the insulation foil being arranged between the first heater supply lead and the second heater supply lead, wherein the heater is electrically connected to at least one of the first heater supply lead and the second heater supply lead via a plated through-hole in the insulation foil.

16. (Cancelled)

17. (Previously Presented) The sensor element as recited in claim 11, wherein the first heater supply lead is at a constant potential, and, to heat the sensor element, a potential of the second heater supply lead is configured to be modified by electrical circuit elements arranged outside of the sensor element.

18. (Previously Presented) The sensor element as recited in claim 17, wherein the first heater supply lead is at a ground potential.

19. (Previously Presented) The sensor element as recited in claim 11, wherein the measuring device includes at least one electrochemical cell having a first electrode, a second electrode and a solid electrolyte, the solid electrolyte electrically connecting the first electrode and the second electrode.

20. (Previously Presented) The sensor element as recited in claim 11, wherein at least one of the first heater supply lead and the second heater supply lead has a lattice structure.

21. (Currently Amended) ~~The sensor element as recited in claim 11,~~ A sensor element, having a layer configuration, for detecting a concentration of a gas component in an exhaust gas of an internal combustion engine, comprising:

a measuring device configured to detect a physical property of the gas; and

a heating device including a heater, which is electrically connected to a first heater supply lead and a second heater supply lead;

wherein the first heater supply lead is arranged in a plane of stratification between the second heater supply lead and the measuring device and the first heater supply lead is at an at least largely constant electrical potential; and

wherein a perpendicular projection of the second heater supply lead onto the plane of stratification of the first heater supply lead lies at least regionally on the first heater supply lead.

22. (New) A sensor element, having a layer configuration, for detecting a concentration of a gas component in an exhaust gas of an internal combustion engine, comprising:

a measuring device configured to detect a physical property of the gas; and
a heating device including a heater, which is electrically connected to a first heater supply lead and a second heater supply lead;

wherein the first heater supply lead is arranged in a plane of stratification between the second heater supply lead and the measuring device and the first heater supply lead is at an at least largely constant electrical potential; and

wherein the heater is energized and de-energized by a change in the potential of the second heater supply lead in order to adjust a predetermined temperature of the measuring device.